has unlimited sway, is destined, it is to be feared, to ultimate extinction.

Let us indulge the hope that the interest which is beginning to be manifested in regard to the preservation of our forests generally, may result in measures statutory or otherwise for its preservation.

SELECTIONS FROM THE BOTANY OF THE REGION OF THE TORREYA.

Plants peculiar to the Region.

Calamintha dentata.
Carex Baltzellii.
Taxus Floridana.
Torreya taxifolia.

Plants not seen by me elsewhere South of the Mountains of Georgia.

Aristolochia tomentosa.
Cornus alternifolia.
Dentaria laciniata.
Calycocarpum Lyoni.
Zanthorhiza apiifolia.
Spiræa opulifolia.
Thalictrum anemonoides.
Trautvetteria palmata.
Viola Muhlenbergii, var.

Plants not seen by me elsewhere in Florida.

Actinomeris squarrosa.
Archangelica hirsuta
Bumelia lycioides.
Carex rosea.
Cherokeensis
Halei.
gynandra.
Clematis Viorna.
Croomia pauciflora.
Cynoglossum Virginicum.
Epigæa repens.
Euonymus atropurpureus.
Eupatorium ageratoides.
Forrestiera acuminata.
Gonolobus Baldwinianus.
Hepatica triloba.
Hypericum nudiflorum.
galioides, var.
Lupinus perennis, var.
Luzula campestris.
Magnolia macrophylla.
Philadelphus grandiflorus.
Phryma leptostachya.
Polygala Boykinii.
Rudbeckia laciniata.
Sabbatia gentianoides.
Silene Baldwinii.
Zornia tetraphylla.

EXPLANATION OF MAP.—The localities occupied by *Torreya* are indicated by heavy shading, chiefly along the bluffs.

Notes on Naiadaceæ.

BY THOMAS MORONG.

POTAMOGETON PAUCIFLORUS, Pursh, var. CALIFORNICUS.—A vigorous growth, with stems 12 to 18 inches high, flattened or a little winged, half a line broad below: leaves 1 or 2 inches long, nearly a line wide, 3 to 5-nerved, the midrib thick and prominent as in *P. obtusifolius:* peduncles erect, thick, clavate: spike containing sometimes as many as 12 roundish fruits, which are crested or undulate and frequently shouldered on the back, commonly angled on the face, varying from $\frac{3}{4}$ to 1 line in length.

The form is well distinguished by its stout stem, large and strongly marked leaves, and its spikes of large and numerous fruit.

San Diego County, California. *S. B. & W. F. Parish.*

ZANNICHELLIA PALUSTRIS, L.—The distinctions founded upon the presence or absence of peduncles and pedicels (such as *Z. pedunculata*, Reich., *Z. palustris*, L. var. *pedicellata*, J. Gay, var. *pedunculata*, Gray) will not hold good, as these distinctions may all be noted occasionally upon the same plant; but the following form appears well marked:

Var. MURICATA.—Fruit largely or entirely muricate, sometimes armed with distinct and numerous teeth.

Texas, *J. Reverchon.* San Diego Co. Cal., *Parish.*

NAIAS MAJOR, All. var. GRACILIS.—Internodes long (1 to 3 inches), and nearly naked, with only a few teeth above: leaves very narrow, less than ½mm. broad, with 15 to 24 large teeth on the margin, dorsal teeth few: the teeth are of the *N. major* type, having a many-celled base, and a yellowish 1-celled spiny tip, curved upwards: the sheaths bear two or three teeth on each side: fruit quite small for the species, not over 3mm. long, the surface sculptured with about 25 rows of nearly square or irregularly oblong reticulations. The whole plant, at least when dry, is purple tinged.

The aspect of this plant is so unlike that of the type, that I should call it a new species if any distinctive specific characters could be clearly perceived. It is a good sub-species.

Florida, *A. H. Curtiss.* Distributed as No. 2705.

NAIAS FLEXILIS, Rostk. and Schmidt.—A polymorphous species, found throughout N. America and Europe, and probably in Asia.

The teeth on the margins of the leaves are one-celled; on the sheaths they are often raised above the margin by a basal prominence of several cells. This species occurs in forms with leaves narrow and broad, linear and abruptly acute, and linear-lanceolate, tapering to a sharp point; also in plants which are small, bushy and densely leaved and branched, as well as in forms a foot or more high and quite slender. The following is an extreme form, almost distinct enough to be ranked as a sub-species:

Var. ROBUSTA.—Stem stout, few-leaved, sparsely branching, elongated: leaves linear, 1½–2mm. broad and 10 to 15mm. long,

flat, abruptly acute. I have found it rising to the surface in still ponds, in water 4 to 6 feet deep! Sterile plants only seen.

Eastern Mass. Also collected by *L. H. Bailey, Jr.*, in Mich., and *C. Wright*, in Texas.

NAIAS MICRODON, A. Braun.—Sheaths and teeth similar to those of *N. flexilis*, with which it was formerly classed by Braun, except that the teeth are very minute and sometimes very numerous (30–100): leaves less than 1mm. broad, 5 to 8mm. long, somewhat recurved, undulate, not revolute. The species is mainly characterized by its fruit, which is very short (1 to 2mm.), sculptured on the surface by 16 to 20 rows of nearly square reticulations, and scarcely shining. The fruit of *N. flexilis* is $2\frac{1}{2}$ to 3mm. in length, conspicuously smooth and shining, especially in the denuded nutlet, the superficial marking indistinct in mature fruit, but consisting of about 40 rows of roundish-square or irregular shallow reticulations.

Perdinales river, Texas, coll. *Lindheimer*, 1847.

By the courtesy of the curator of the Chapman Herb. at Columbia College, Prof. N. L. Britton, I have been permitted to see the original specimen of Chapman's *N. flexilis*, var.? *fusiformis*, and I fully agree with Braun that it is *N. microdon*, so that our localities for this species in N. America must include Florida. Our form of the species is classed by Braun as *N. microdon*, var. *Guadalupensis*, it having been originally collected by Duchassaing at the French West India Island Guadaloupe.

Biology of the Conjugatæ.

BY WM. TRELEASE.

The common Brook-Silks (*Spirogyra* and *Zygnema*) have served an excellent purpose in the biological laboratory because of the large size of their cells, and the distinctness with which the parts of the latter stand out; and the completeness of their reproductive processes, which can be followed even by students who have had little training in laboratory manipulations. Yet the details of their vital processes, and even of their structure, are known to comparatively few who use them, and the statements concerning both are scattered through isolated papers, of recent publication, by Strasburger, Schmitz, and others, which are still inaccessible to most teachers. Bringing the most impor-